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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/565,534	03/01/2006	Kouhei Ohnishi	SAT47	2148
20311 7590 10/29/2009 LUCAS & MERCANTI, LLP 475 PARK AVENUE SOUTH 15TH FLOOR NEW YORK, NY 10016				
EXAMINER				
ORTIZ RODRIGUEZ, CARLOS R				
ART UNIT		PAPER NUMBER		
2123				
NOTIFICATION DATE		DELIVERY MODE		
10/29/2009		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

info@lmiplaw.com

### Office Action Summary

**Application No.**

10/565,534

**Applicant(s)**

OHNISHI ET AL.

**Examiner**

CARLOS ORTIZ RODRIGUEZ

**Art Unit**

2123

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 June 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1, 3, 4 and 9 is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☒ Claim(s) 2 and 5-8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01/18/06 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. Claims 1-9 are pending.
2. Please note that Artifact/DVD filed 6/26/09 has been received and reviewed.

#### ***Drawings***

3. The drawings are objected to because: Figure 14 and 15 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

#### ***Claim Objections***

4. (Claim 2 Line 10-11) objected to because of the following informalities: The term "applied to the driving" should be "applied to the driving means". Appropriate correction is required.

5. (Claim 6 Line 2-3) objected to because of the following informalities: The term "observer calculates" should be "observer that calculates". Appropriate correction is required.
6. (Claim 7 Line 1 and Claim 8 Line 1) objected to because of the following informalities: The dependency of the claims appears to be incorrect. These claims are currently duplicate claims. It seems to be that claim 7 should depend on claim 1 and that claim 8 should depend on claim 2. Appropriate correction is required.

***Allowable Subject Matter***

7. Claims 1, 3-4 and 9 are allowed.
8. Claim 2, 6 and 7 would be allowable if rewritten to overcome the corresponding objections set forth in this Office Action.
9. Claims 5 and 8 objected to as being dependent upon objected base claim 2, but would be allowable if claim 2 is rewritten to overcome the objection set forth in "Item 4" of this Office Action.
10. The following is an examiner's statement of reasons/indication for allowance:  
While Nowlin et al. (U.S. Patent 6,879,880) discloses position detection means and driving means for driving an object and Murakami et al., "Force Sensorless Impedance Control by Disturbance Observer", IEEE 1993 discloses a reaction force

estimation observer, none of these references taken either alone or in combination with the prior art of record disclose a position and force control device, including:

(Claim 1) "(iii) reaction force detection means for estimating a reaction force which the object receives, where the reaction force is calculated based on a the detected position signal outputted from the position detection means and a the driving signal applied to the driving means; and (iv) control means for calculating a first acceleration signal from the reaction force calculated by the reaction force detection means and a goal force signal, and further calculating a second acceleration signal from the position signal and a goal position, and outputting an acceleration control signal based on said first and second acceleration signals to said driving means",

(Claim 2) "(iii) reaction force detection means for estimating a reaction force undergone by the object, where the reaction force is calculated based on a the position signal outputted from the position detection means and a the driving signal applied to the driving means; (iv) first calculation means for calculating a first difference between the position command signal and the position signal outputted by the position detection means and converting the first difference to a first acceleration signal; (v) second calculation means for calculating a second difference between the reaction force calculated by the reaction force detection means and the force command signal, and converting the second difference to a second acceleration signal; and (vi) control means for adding the said first and second acceleration signals and outputting an acceleration control signal based on said first and second acceleration signals, to said driving means", and

(Claim 3) "(iii) first reaction force detection means for estimating a first reaction force acting on the operation part to output a first estimated value, where the first reaction force is calculated based on the first position signal outputted from the first position detection means and the first driving signal applied to the first driving means; (iv) second driving means for driving the object on the slave side based on a second driving signal applied thereto; (v) second position detection means for detecting a second position of the object on the slave side to output a second position signal; (vi) second reaction force detection means for estimating a second reaction force undergone by the object to output a second estimated value, where the second reaction force is calculated based on the second position signal outputted from the second position detection means and the second driving signal applied to the second driving means; (vii) first calculation means for calculating a difference between the first position signal outputted by the first position detection means and the second position signal outputted by the second position detection means, and converting the difference to a first acceleration signal and a second acceleration signal; (viii) second calculation means for calculating a sum of the first estimated value and the second estimated value respectively outputted from the first and the second reaction force detection means, and converting the sum to a third acceleration signal and a fourth acceleration signal; (ix) first addition means for adding the first acceleration signal and the third acceleration signal to output a first added value; (x) second addition means for adding the second acceleration signal and the fourth acceleration signal to output a second added value; (xi) first control means for outputting a first generated acceleration control signal to the

first driving means on the master side, based on the first added value outputted from the first addition means; and (xii) second control means for outputting a second generated accelerated control signal to the second driving means on the slave side, based on the second added value outputted from the second addition means”,

in combination with the remaining elements and features of the claimed invention. It is for these reasons that the applicant's invention defines over the prior art of record.

### ***Conclusion***

11. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance”.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carlos Ortiz-Rodriguez whose telephone number is 571-272-3766. The examiner can normally be reached on Mon-Fri 10:00 am- 6:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Rodriguez can be reached on 571-272-3753. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/kideest Bahta/  
Primary Examiner, Art Unit 2123

Carlos Ortiz-Rodriguez  
Patent Examiner  
Art Unit 2123

October 27, 2009